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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,619	12/05/2001	Toshihito Yanashima	011618	1952

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EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/002,619

Applicant(s)

YANASHIMA ET AL.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 4 June 2002 has been considered by the examiner.

Specification

3. The disclosure is objected to because of the following informalities: Various non-idiomatic phrases and instances of incorrect syntax appear in specification, such as "until an electrical angle 90 degrees to 0 degree reverse to the generated magnetomotive force..." (p.17, lines 1-4). See also, p.17, second paragraph. On p.14, line 24, remove the end-parentheses. Further, it is not clear if the description, pp.12-15, and Figs.5-6 describe the prior art.

Appropriate correction is required.

Claim Objections

4. Claim 1 is objected to because of the following informalities: On the last line, insert ---of--- before "0" and change "degree" to ---degrees---. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Zolliker (DE 3429813). Zolliker teaches a permanent magnet synchronous induction motor including: stator and stator winding (not shown, inherent); rotor 1; rotor cage 3 provided in a peripheral portion of the rotor core (laminations 26); and permanent magnets 8/8a inserted into the rotor having a two-pole (N and S) structure (Figs.6-7); wherein the magnetomotive force generated by one pole of the rotor is set to a value equal to or less than 10% of a peak value in a predetermined range near and electrical angle of 0 and 180 degrees, due to use of empty slots 6 (Fig.6) between the slots filled with magnets 8. While Fig.6 shows a value of zero around 0 and 180 degrees, in reality the flux is "equal to or less than 10%" of the peak value since some mmf of the magnets will exist in this region, as evidenced by the 'ideal' mmf curve 19. Regarding claim 2, the range of the regions at which the flux is "equal to or less than 10%" would fall into the range specified by applicant, i.e., within 0-10 and 170-180 degrees. Regarding claim 2, the ideal mmf represented by 19 is sinusoidal. Regarding claim 4, the arrangement in Fig.7 shows a step-like chevron shape to the mmf curve.

Claim Rejections - 35 USC § 103

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naito et al. (JP 7-274460) in view of GB 677,941 (GB '941). Naito teaches a synchronous motor including a stator including: stator 1 and stator winding (Fig.1); rotor 21; and plural permanent magnets 31 inserted into the rotor having a two-pole (N and S) structure (Fig.1); wherein the magnetomotive force generated by one pole of the rotor is set to a value equal to or less than 10% of a peak value in a predetermined range near and electrical angle of 0 and 180 degrees, due to the use of rectangular layers of permanent magnets 31 separated by rectangular layers of non-magnetic material 41.

Naito does not teach a rotor cage provided in a peripheral portion of the rotor core. GB '941 teaches a synchronous motors including a conductive or "squirrel cage" winding comprising conductive bars 12 in a laminated sleeve 9 arranged around permanent magnet 2 to effect self starting and dampen hunting (p.1, lines 64-95).

It would have been obvious at the time of the invention to modify Naito and provide a squirrel cage per GB '941 since this would have been desirable to self-start the motor and dampen hunting.

9. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zolliker or, alternatively, Naito and GB '941, as applied to claim 1 above. While neither Zolliker nor the


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combination of Naito and GB '941 teach a motor used on a compressor in an air conditioning system, the specific use of a synchronous motor would have been an obvious modification since it has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
March 7, 2003